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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/828,469  
Filing Date: April 09, 2001  
Appellant(s): SILVA ET AL.

**MAILED**  
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Silva et al  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed August 25, 2006 appealing from the Office  
action mailed October 19, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,991,799	YEN ET AL	11-1999
6,061,679	BOURNAS ET AL	5-2000

6,637,032	FEINLEIB	10-2003
5,654,748	MATTHEWS, III	8-1997
6,040,829	CROY ET AL	3-2000
2001/0016944	TERAKDO ET AL	8-2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 2, 4, 5, 7, 10, 11, 13, and 17-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen (5,991,799, of record) in view of Bournas et al. (6,061,679, of record) [Bournas].

Regarding claims 1 and 20, Yen discloses a method and computer program for providing content relevant to television programming (col. 8 line 66 – col. 9 line 12), the method comprising:

Determining television programming being viewed by a viewer at a particular time (the background element monitors currently viewed programming col. 12, lines 10-15)

Determining available context information associated with the television programming available for delivery to the viewer (col. 9, lines 49-63, wherein all available information items are 'crosslinked' with each other, col. 8, lines 57-65, which is how the system determines what context information is associated with television broadcasts, such as described in the example given in col. 8 line 66 – col. 9 line 12);

Making an intelligent selection from the available context information (col. 9, lines 13-35); and

Delivering the selected context information to the viewer (col. 11, lines 21-40).

Yen fails to disclose the intelligent selection comprises selecting the selected context information based upon a hierarchy of available context information.

In an analogous art, Bournas teaches a method for searching for desired data (col. 4, lines 45-60) based upon a predetermined hierarchy (col. 7, lines 15-36), for the benefit of a more efficient search method (col. 2, lines 52-59).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen to include selecting based upon a hierarchy, as taught by Bournas, for the benefit of more efficiently searching for contextual information.

Regarding claim 2, Yen and Bournas disclose the method of claim 1, wherein determining television programming being viewed comprises determining the television programming tuned to by a set top box (Yen, fig. 1, wherein the set top box is elements 110 and 120, col. 4, lines 14-22).

Regarding claim 4, Yen and Bournas disclose the method of claim 1, wherein determining context information associated with the television

programming comprises determining context information based upon a television signal (Yen, such as a broadcast football game, col. 8 line 66 – col. 9 line 12) received by a set top box (Yen, fig. 1, wherein the set top box is elements 110 and 120, col. 4, lines 14-22).

Regarding claim 5, Yen and Bournas disclose the method of claim 1, wherein determining context information associated with the television programming comprises determining context information based upon a channel identification number (Yen, col. 10, lines 40-49).

Regarding claim 7, Yen and Bournas disclose the method of claim 1, wherein determining context information associated with the television programming comprises determining context information based upon a television show (Yen, col. 8 line 66 – col. 9 line 12).

Regarding claim 10, Yen and Bournas disclose the method of claim 1, wherein determining context information associated with the television programming comprises determining context information based upon a program content category (Yen, users specify classes of content deemed interesting, col. 9 line 64 – col. 10 line 1).

Regarding claim 11, Yen and Bournas disclose the method of claim 1, wherein the hierarchy is predetermined (an inherent feature, because the search takes place utilizing the hierarchy data structure, as taught by Bournas, said hierarchy must be established prior to said search taking place).

Regarding claim 13, Yen and Bournas disclose the method of claim 11, wherein the hierarchy is determined by a television program (Yen, col. 8 line 66 – col. 9 line 12).

Regarding claim 17, Yen and Bournas disclose the method of claim 1, wherein the hierarchy is viewer selected (Yen, col. 9 line 49 – col. 10 line 4).

Regarding claim 18, Yen and Bournas disclose the method of claim 1, wherein the hierarchy is viewer selected, and thus dynamically determined (Yen, col. 9 line 49 – col. 10 line 4).

Regarding claim 19, Yen and Bournas disclose the method of claim 1, wherein delivering the selected context information to the viewer comprises displaying the context information by a set top box (Yen, fig. 1, wherein the set top box is elements 110 and 120, col. 4, lines 14-22).

Regarding claim 21, Yen and Bournas disclose the computer program of claim 20, but fails to disclose the computer readable medium is a disc.

The official notice taken that it is notoriously well known in the art to store computer programs on a disc, such as a hard disk drive, which provides a large amount of permanent storage on computer systems, was not traversed by the applicant, and is thus taken as an admission of the facts herein.

It would have been obvious at the time to a person of ordinary skill in the art to modify the computer program of Yen and Bournas to use a disc as a computer readable medium, such as a hard disk drive, which provides large amounts of permanent storage for computer systems.

Regarding claim 22, Yen and Bournas disclose the computer program product of claim 20, wherein the computer readable medium is a client device (Yen, fig. 1, information multiplexer 120, which performs the intelligent selection of context information, col. 9, lines 13-35).

Regarding claim 23, Yen and Bournas disclose the computer program product of claim 20, but fails to disclose the computer readable medium is a host device.

The official notice taken that it is notoriously well known in the art to perform complex interactive computations at the headend of interactive television



systems, simplifying the home units needed to connect to the system was not traversed by the applicant, and is thus taken as an admission of the facts herein.

It would have been obvious at the time to a person of ordinary skill in the art to modify the computer program product of Yen and Bournas such that the computer readable medium is a host device, for the benefit of reducing the complexity of home devices used by the system, thus lowering the cost of home units.

Regarding claim 24, Yen and Bournas disclose the computer program product of claim 20, wherein the computer readable medium is a propagated signal (an inherent feature, as any computer program must be a propagated signal in order to be utilized by the computer system in which it is disposed).

Regarding claim 25, Yen and Bournas disclose the method of claim 1, wherein the available context information comprises web pages (Yen, col. 8 line 66 – col. 9 line 12).

Regarding claim 26, Yen and Bournas disclose the method of claim 1, wherein the hierarchy of available context information comprises ranked categories of context information [hierarchy] associated with a television program being viewed by the viewer (Yen, col. 12, lines 10-15).

Regarding claim 27, Yen and Bournas disclose the method of claim 26, wherein the ranked categories comprise a name of the television program (Yen, col. 12, lines 20-29).

Regarding claim 28, Yen and Bournas disclose the method of claim 1, wherein the hierarchy of available context information comprises ranked categories of context information [hierarchy] associated with the viewer (Yen, col. 11 line 66 – col. 12 line 9).

Regarding claim 29, Yen and Bournas disclose the method of claim 28, wherein the ranked categories comprise the viewer's interests (Yen, col. 11 line 66 – col. 12 line 9).

2. Claims 3, 8, 9, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen and Bournas as applied to claims 1 and 11 above, and further in view of Matthews, III. (5,654,748, of record) [Matthews].

Regarding claims 3 and 9, Yen and Bournas disclose the method of claim 1, but fails to disclose determining television programming being viewed comprises determining the television programming based upon an EPG identifier.

In an analogous art, Matthews teaches determining television programming being viewed based upon an EPG identifier (col. 5 line 65 – col. 6 line 13), for the benefit identifying programming in a simple manner.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method of Yen and Bournas to include determining television programming being viewed based upon an EPG identifier, as taught by Matthews, for the benefit of identifying programming in a simple manner, as other means would require special codes or information to be associated with programming ahead of time, which would be cumbersome and expensive for analog broadcasts.

Regarding claim 8, Yen and Bournas disclose the method of claim 1, but fails to disclose determining context information associated with the television programming comprises determining context information based upon an episode of a television show.

In an analogous art, Matthews teaches determining context information associated with the television programming based upon an episode of a television show (col. 7, lines 22-31), providing very specific additional information for viewers regarding viewed programming.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen and Bournas to include determining context information based upon an episode of a television show, as taught by Matthews, for the benefit of providing very specific additional information to viewers regarding individual episodes within a television series.

Regarding claim 12, Yen and Bournas disclose the method of claim 11, but fail to disclose the hierarchy is determined by an episode of a television program.

In an analogous art, Matthews teaches determining context information associated with the television programming based upon an episode of a television show (col. 7, lines 22-31), providing very specific additional information for viewers regarding viewed programming.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen and Bournas to include determining context information based upon an episode of a television show, as taught by Matthews, for the benefit of providing very specific additional information to viewers regarding individual episodes within a television series.

Regarding claim 15, Yen and Bournas teach the method of claim 11, but fail to disclose the hierarchy is determined by an EPG identifier.

In an analogous art, Matthews teaches determining television programming being viewed based upon an EPG identifier (col. 5 line 65 – col. 6 line 13) in order to locate additional information related to said program (col. 7, lines 22-31), for the benefit identifying programming in a simple manner.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method of Yen and Bournas to include determining television programming being viewed based upon an EPG identifier, as taught by

Matthews, for the benefit of identifying programming in a simple manner, as other means would require special codes or information to be associated with programming ahead of time, which would be cumbersome and expensive for analog broadcasts.

3. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen and Bournas as applied to claims 1 and 11 above, and further in view of Feinleib (6,637,032, of record).

Regarding claim 6, Yen and Bournas disclose the method of claim 1, but fail to disclose determining context information associated with the television programming comprises determining context information based upon a broadcaster identifier.

In an analogous art, Feinleib teaches coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast (the MSNBC cable broadcast is supplemented with posting on the MSNBC web site, col. 1, lines 43-51), providing the benefit of broadcaster specific supplemental content.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen and Bournas to include coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast, as taught by Feinleib, for the benefit of providing broadcaster specific supplemental content, granting broadcasters a measure of

control over what supplemental content is associated with their own broadcast programming.

Regarding claim 14, Yen and Bournas disclose the method of claim 11, but fail to disclose the hierarchy is determined by a broadcaster identifier.

In an analogous art, Feinleib teaches coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast (the MSNBC cable broadcast is supplemented with posting on the MSNBC web site, col. 1, lines 43-51), providing the benefit of broadcaster specific supplemental content.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen and Bouras to include coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast, as taught by Feinleib, for the benefit of providing broadcaster specific supplemental content, granting broadcasters a measure of control over what supplemental content is associated with their own broadcast programming.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yen and Bournas as applied to claim 11 above, and further in view of Matthews and Feinleib.

Regarding claim 16, Yen and Bournas disclose the method of claim 11, and additionally disclose selecting context information based upon a television

program (such as a broadcast football game, shown in Yen, col. 8 line 66 – col. 9 line 12), and selecting context information based upon a content category (information classes, Yen, col. 9 line 64 – col. 10 line 1), wherein context information is intelligently selected based upon a predetermined hierarchy which first searches the most specific criteria and progressively traverses the hierarchy upwards using less specific criteria until context information is found (as taught by Bournas, col. 7, lines 15-36). Thus the combination of Yen and Bournas teaches searching for context information based upon the most specific criteria first, and if no context information is found, applying progressively broader criteria (the television program, and then simply a content category) until context information is found.

Yen and Bournas fail to disclose selecting context information based upon an episode of a television program and selecting context information based upon a broadcaster identifier.

In an analogous art, Matthews teaches determining context information associated with the television programming based upon an episode of a television show (col. 7, lines 22-31), providing very specific additional information for viewers regarding viewed programming.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen and Bournas to include determining context information based upon an episode of a television show, as taught by

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Matthews, for the benefit of providing very specific additional information to viewers regarding individual episodes within a television series.

Yen, Bournas, and Matthews fail to disclose selecting context information based upon a broadcaster identifier.

In an analogous art, Feinleib teaches coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast (the MSNBC cable broadcast is supplemented with posting on the MSNBC web site, col. 1, lines 43-51), providing the benefit of broadcaster specific supplemental content.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Yen, Bournas, and Matthews to include coordinating a television broadcast with supplemental content based upon the broadcaster of the television broadcast, as taught by Feinleib, for the benefit of providing broadcaster specific supplemental content, granting broadcasters a measure of control over what supplemental content is associated with their own broadcast programming.

**(10) Response to Argument**

**(a) Independent claims 1 and 28, along with their dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19, 25, 27, and 26, are not obvious over 35 U.S.C. 103(a) over Yen and Bournas**



**1. Independent claim 1 and its dependent claims 2, 4, 5, 7, 10, 11, 13, 17-19, 25, and 27 are not obvious over Yen and Bournas**

Appellants primary argument is in regards to the claimed hierarchy consisting of ranked categories of context information, stating that because the Bournas teaches a key-based hierarchy, no combination of Yen and Bournas can teach a content based hierarchy (appeal brief, pages 4-8).

In response, the examiner has previously attempted to establish the proper context of just how one of ordinary skill in the art would be motivated to modify the system disclosed by Yen when presented with the teachings found in Bournas (see the Advisory actions mailed on February 6, 2006 and March 7, 2006). A more thorough explanation is thus merited.

Of primary importance is that Yen is the primary reference. It establishes the context and direction of any modifications one would make to it, and to focus on the shortcomings of any secondary reference in explicitly failing to meet a claimed limitation is to disregard the importance of the Yen reference and the influence it would have on a practitioner of ordinary skill in the art. As stated previously, Yen teaches arranging information according to ranked categories of context information (Yen, col. 9 line 37 – col. 10 line 62, where information is categorized according to a multitude of classes, and interest in each class is given a weight, or ranking, according to a determined viewer interest). Yen gives an example of the ranked categories used in a sports example. Column 9, lines

45-48 state "For example, the preferences can indicate that the recipient is very interested in sports reports for San Francisco teams, but only slightly interested in sports reports for other teams." This example put forth by Yen very nearly anticipates appellants claimed limitation by itself, as sporting event content is categorized according to the city from which each team is from, and each class of content falling under the larger class of sporting event content in general. The only limitation that is not clearly anticipated is the express arrangement of these classes into a hierarchy. This is where one of ordinary skill in the art would look to art dealing with specific search algorithms, because iteratively searching through every piece of information available by performing a comparison of each with every single class of information as they are retrieved would be extraordinarily inefficient, especially considering the granularity with which Yen classifies information (such as sports team information according to city) and the number of sources which Yen proposes retrieving information from (Yen, col. 7 line 9 – col. 8 line 65). At this point, a practitioner of ordinary skill in the art would look at the Bournas reference, which states " There is an ever increasing need for efficiency in creating, modifying, and searching data structures." (Bournas, col. 1, lines 12-13) and "In accordance with the principles of the present invention, a data structure, which includes a plurality of ordered sub-data structures, is created and searched" (Bournas, col. 3, lines 29-31). Bournas then describes his improved data structure in terms of arranging data in a hierarchy based on key mask ranges as exemplary only "The shortcomings of the prior art

are overcome and additional advantages are provided through the provision of a method of creating a data structure. The method includes, **for example**, obtaining a plurality of sub-data structures, and ordering the plurality of sub-data structures based on ranges of key masks associated with the plurality of sub-data structures" (emphasis added, Bournas, col. 1, lines 58-64). Bournas strongly emphasizes that the disclosure is non-limiting and the detailed description is only for understanding the principles of the invention, stating "For ease of understanding the invention, and for this reason only, the invention is described in terms of a routing mechanism and the data structure is referred to as a routing table" and "As mentioned above, one example of a key is an address. The example will refer to address for simplicity reasons, only." (Bournas, col. 5, lines 6-18). Therefore the true invention disclosed by Bournas is the principle of tree based data structures for finding the best match for a given requested data element. Bournas then describes, using routing information as exemplary only, the process as a series of steps where specific trees are first searched for a desired information element, and if it is not found in the most specific tree, then searching in less specific trees until a match is found (Bournas, col. 7, lines 15-36). When these teachings are viewed in light of Yen, the practitioner of ordinary skill in the art would then be motivated to arrange the classes of information into tree based data structures to improve the searching efficiency of the system. For example, if the classes of data disclosed by Yen were expressly arranged into trees, e.g. data structures containing sub-data

structures, then when searching for content related to a currently viewed sporting event, the system would first only consider sports information classified under San Francisco (Yen, col. 9, lines 45-48) prior to searching for information under more general headings (such as the league in which the currently broadcast teams play or, even more generally, sporting event content on other broadcast stations, Yen, col. 8 line 66 – col. 9 line 12). The improvement of efficiency comes from limiting a search to a series of categories when traversing a tree.

Appellant additionally argues that the efficiency gains taught by Bournas are directly coupled to the use of key mask ranges (appeal brief, page 8), however the use of key mask ranges is emphasized by Bournas to be only exemplary in defining the principles of the invention. For example column 5 line 58 – col. 6 line 16 describes how Bournas would use key mask ranges to create a series of linked trees, each less specific than the last. When performing a search, the most specific tree is searched first, then the second most specific, and on toward the least specific trees until the entire structure has been searched (Bournas, col. 7, lines 15-36). The efficiency gain comes from looking at the most specific tree first, as this is where desired data is most likely to be located, and gradually broadening the search from there until a match is found. The use of key mask ranges is simply an exemplary way of creating these trees. In Yen, creating more-to-less specific trees (to apply the concept disclosed by Bournas) would naturally be to create category/sub-category or class/sub-class

trees, as the use of categories or classes is exactly how Yen identifies content (such as subject matter and locality values, Yen, col. 7 line 26 – col. 8 line 19).

Furthermore, appellant overemphasize the influence of the Bournas reference. Tree based (hierarchy) arrangement of data is of general knowledge known to all of ordinary skill in the art, and an additional reference was only relied upon by the examiner for establishing a *prima facie* case of obviousness as required by 35 U.S.C. 103(a). For example, US Patent No. 6,040,829 to Croy et al. shows a program guide that organizes data according to an ordered hierarchy (see figs. 16-23 and 25-29) and US Pre-Grant Publication 2001/0016944 to Terakado et al. shows arrangement of program guide data into hierarchies (see fig 10 and paragraphs 0006-0007).

**2. Independent claim 28 and its dependent claim 29 are not obvious over Yen and Bournas**

Here appellant restates the above argument regarding claim 1.

**(b) Dependent claims 3, 8, 9, 12, and 15, which depend from independent claim 1, are not obvious under 35 U.S.C. 103(a) over Yen, Bournas, and Matthews, alone or in combination**

Here appellant relies upon the validity of the arguments presented regarding claim 1.

(c) Dependent claims 6 and 14, which depend from claim 1, are not obvious under 35 U.S.C. 103(a) over Yen, Bournas, and Feinleib, alone or in combination

Here appellant relies upon the validity of the arguments presented regarding claim 1.

(d) Dependent claims 16, which depends from claim 1, is not obvious under 35 U.S.C. 103(a) over Yen, Bournas, Feinleib, and Matthews, alone or in combination

Here appellant relies upon the validity of the arguments presented regarding claim 1.

**(11) Related Proceedings Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Dominic Saltarelli




Conferees:

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